## (19) World Intellectual Property Organization

International Bureau



# 

(43) International Publication Date 13 May 2004 (13.05.2004)

**PCT** 

(10) International Publication Number WO 2004/039426 A3

(51) International Patent Classification<sup>7</sup>:

A61N 1/30

(21) International Application Number:

PCT/IL2003/000901

(22) International Filing Date: 30 October 2003 (30.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 152575

31 October 2002 (31.10.2002) IL

(71) Applicant (for all designated States except US): TRANSPHARMA MEDICAL LTD. [IL/IL]; P.O. Box 222, 56000 Yehud (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEVIN, Galit [IL/IL]; 15 Haegoz Street, 42954 Nordiya (IL). STERN, Meir [IL/IL]; 3 Hafetz Haim Street, 76217 Rehovot (IL). DANIEL, Dorit [IL/IL]; 16/6 Hasharon Street, 43351 Ra'anana (IL).

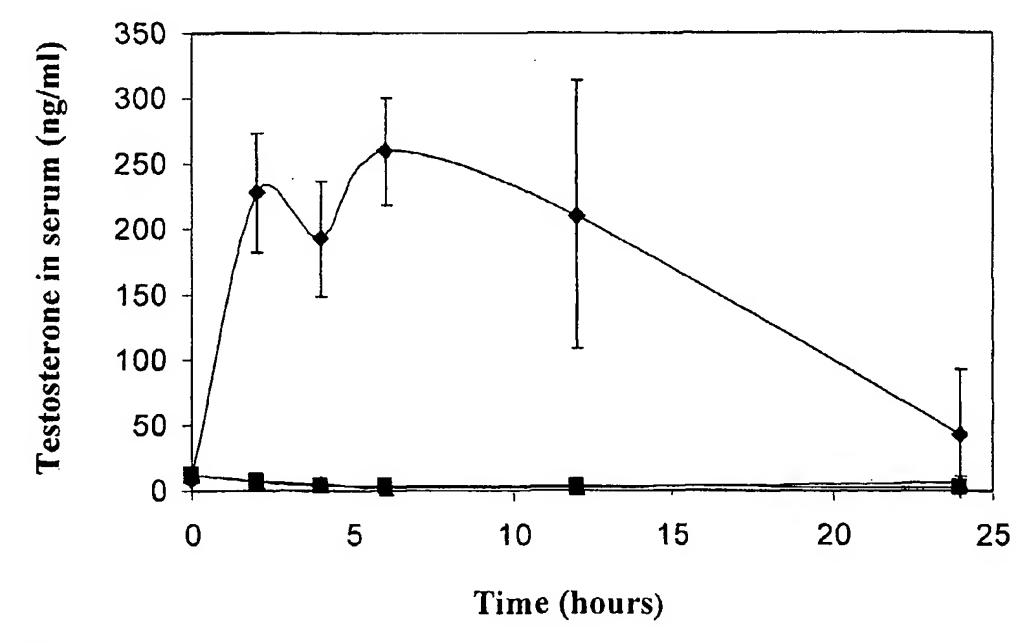
- (74) Agent: WEBB, Cynthia; Webb & Associates, P.O. Box 2189, 76121 Rehovot (IL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

### (54) Title: TRANSDERMAL DELIVERY SYSTEM FOR WATER INSOLUBLE DRUGS



(57) Abstract: The present invention provides a system for transdermal delivery of water insoluble drugs and methods using thereof. The system comprises an apparatus that generates hydrophilic micro-channels in an area of skin of a subject and a medical patch comprising a water insoluble drug and a carrier molecule that enhances the solubility of the drug in aqueous solution. The system is particularly useful for transdermal delivery of steroids.



## WO 2004/039426 A3



(88) Date of publication of the international search report:
10 September 2004

(15) Information about Correction:
Previous Correction:
see PCT Gazette No. 29/2004 of 15 July 2004, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL	CEVBCH	DEDODT
INTERNATIONAL	SPARCH	REPURI

International application No.

TA CYAS	COLETO A TOP OF THE THE		PC171L03/00901		
A. CLAS IPC(7)	SSIFICATION OF SUBJECT MATTER				
IPC(7) : A61N 1/30 US CL : 604/501					
According to International Patent Classification (IPC) or to both national classification and IPC					
B. FIELDS SEARCHED					
Minimum documentation searched (classification system followed by classification symbols)					
U.S. : 6	04/19-21, 501	- y			
Documentation	on searched other than minimum documentation to th	a extent	that mah dannan ' ' '	1 . 41 . 64	
	management documentation to fil	C CYICHI	mat such uocuments are included	in the Heids searched	
,					
771					
Electronic da	ta base consulted during the international search (nar	me of dat	a base and, where practicable, s	earch terms used)	
	UMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where a			Relevant to claim No.	
X	X US 5,320,597 A (SAGE, JR. et al) 14 June 1994 (14.06.1994), See column 3, lines 42-		1-4,9-12,17-20,24-		
Y	1 co, column 5, mics 45-35, column 10, line 12 to column 11, line 5.			29,33-35	
			•	36-40	
X	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1,2,9-12,17,18,24-	
Y	65, column 14, line 11 to column 15, line 9, column 15, lines 54-67.			27,33,34	
	***************************************			3 / 10 00 00 00 06 40	
Y, P	US 6,611,706 B2 (AVRAHAMI et al) 26 August 2	003 (26 (	08.2003) See abstract column	3,4,19,20,28,29,36-40	
	14, lines 21-35.	(£0.1	o.2007, ood abstract, column	1,13,14	
Purther	documents are listed in the continuation of Box C.		San mutant families annous	<del></del>	
	pecial categories of cited documents:	<u> </u>	See patent family annex.		
		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the		emational filing date or priority cation but cited to understand the	
"A" document of particu	defining the general state of the art which is not considered to be		principle or theory underlying the inve		
		"X"	document of particular relevance; the	claimed invention cannot be	
	plication or patent published on or after the international filing date		considered novel or cannot be conside when the document is taken alone	red to involve an inventive step	
"L" document establish	which may throw doubts on priority claim(s) or which is cited to the publication date of another citation or other special reason (as	«Y»		claimed invention	
specified)		•	document of particular relevance; the considered to involve an inventive step	when the document is	
"O" document	referring to an oral disclosure, use, exhibition or other means		combined with one or more other sucl being obvious to a person skilled in th	n documents, such combination e art	
"P" document	published prior to the international filing date but later than the	"& <del>"</del>	document member of the same patent		
priority d	ate claimed		accomment mornings of the sume bateur	tamy	
Date of the a	ctual completion of the international search	Date of	f mailing of the international sea	rch report	
02 July 2004	(02.07.2004)	(	04 11	ICAROA	
	ailing address of the ISA/US	Author	ized officer	Jacob Will	
Mai	il Stop PCT, Attn: ISA/US		Sha aren 41	Wherethe	
P .	nmissioner for Patents  3. Box 1450	Sharon Kennedy			
Ale	Alexandria, Virginia 22313-1450 Telephone No. 703/308-0858				
Facsimile No. (703) 305-3230					
Form PCT/IS/	A/210 (second sheet) (July 1998)				